

one of said pulses from a given one said detectors, vetos the counting of additional ones of said pulses for a prescribed period of time from said given one of said detectors without vetoing all of said pulses from all of said detectors.

In claim 5: line 1, change "5" to --4--.

line 3 after "pulse" insert --from said given one of said detectors--.

In claim 9: line 2, after "wherein" insert --all--,

after "in" insert --a particular one--, and
delete "each".

line 4, delete "one" and substitute --ones--.

14. (Amended) A method for increasing the sensitivity of measuring the amount of radioactivity in waste utilizing localized neutron coincidence vetoes to reduce the interference caused by cosmic ray generated neutrons, said method including the steps of:

- a. providing a plurality of neutron detectors, ~~each of said detectors including means for generating a pulse in response to the detection of a neutron;~~
- b. generating pulses from each of said neutron detectors in response to the detection of neutrons by each said neutron detector, each of said pulses corresponding to the detection of a neutron;
- c.b. for each neutron detector counting one ~~only some of said pulses from each of said detectors, whether cosmic ray or fission generated;~~ and
- d.e. for each of said neutron detectors, after said counting of said one of said pulses, vetoing the counting of additional ones of said pulses ~~from each of~~

~~said detectors~~ for a prescribed period of time ~~after said counting~~.

Please add the following new claim:

16. The method of claim 14, wherein after said counting of said one of said pulses, also vetoing the counting of additional ones of said pulses for said prescribed period of time from detectors adjust to said detector for which said pulse was counted.

REMARKS

In response to the Office Action of December 14, 2001, claims 1 and 14, the only independent claims, have been amended. Claims 5 and 9 have been edited. No change in scope is intended. Minor edits have also been made to pages 8 and 9 of the specification.

There are significant differences between Applicants' invention and the anti-coincidence detector disclosed in Passive Neutron Design Study for 200-L Waste Drums, H.O. Menlove, et al., LA-13333-MS, September 1997. As set forth in the attached Declaration of H.O. Menlove, the lead author of the above captioned reference and one of the Applicants herein, the prior art makes use of the normal anti-coincidence methodology. That is, a signal in one detector gates out possible counts in all of the other detectors. In the reference, a thin plastic scintillation detector is positioned relative to the He-3 based neutron detector so that the cosmic rays pass through the plastic before the primary neutron detector (He-3 tubes). The cosmic rays are charged particles (protons or muons) and, as such, they trigger the plastic scintillator with almost 100% efficiency. However, less than one percent of these cosmic rays cause spallation in the primary